



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,174	06/13/2001	Naosumi Tada	DKT00127	5817

7590 05/30/2003

BORGWARNER INC.
Patent Department
3001 West Big Beaver Road, Suite 200
P. O. Box 5060
Troy, MI 48007-5060

EXAMINER

JOHNSON, VICKY A

ART UNIT PAPER NUMBER

3682

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/880,174

Applicant(s)

TADA, NAOSUMI

Examiner

Vicky A. Johnson

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Attachment A & B

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 12 and 21 are rejected because the limitation that the coefficient of friction of the friction surface being larger than the coefficient of friction of the opposing blade spring surfaces is inaccurate. The coefficient of friction refers to a constant that represents the resistance when two solid surfaces slide or tend to slide over each other (see attachment of Mark's Standard Handbook). It is inaccurate to compare one of those surfaces to the other in regard to their coefficient of friction; the two surfaces combined have one coefficient of friction.

Claim 18 is rejected because there is an inconsistency between the language in the preamble of claim 12, which recited the blade shoe in intended use, and a portion of the body of claim 18, which positively recites the blade shoe, thereby making the scope of the claim unclear. The Applicant should clarify what the claim is to drawn to, the sub-combination of the blade springs alone, or the combination of the blade shoe and the blade springs, and keep the language of the claims consistent with this intent. For this Office Action, the claims have been treated as claiming the combination.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 7, 8, 12-15 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cradduck et al (US 5,055,088) in view of Rowland et al (US 2,920,884).

Cradduck et al disclose a blade tensioner for applying tension to a chain, the blade tensioner comprising: a blade shoe (30) having a first face and an opposing second face (see Fig 2), the first face having a chain sliding surface on which the chain is slidable (see Fig 2); at least two adjacent blade springs (21,22) each having an upper and lower planar surface (see Figs 3 and 4A), disposed on the second face of the blade shoe for applying a spring force to the blade shoe (col. 2 lines 54-59), the adjacent blade springs having opposing surfaces slidable relative to each other (col. 1 lines 15-38).

Cradduck et al does not disclose a friction surface provided between the contact surfaces of the adjacent blade springs and selected to provide sliding resistance there between effective to damp vibrations of the tensioner.

Rowland et al show the use of a friction surface (28) provided between the lower planar surface of a first blade spring (14) and the upper planar surface of a

second blade spring (18) and selected to provide sliding resistance there between effective to damp vibrations of the tensioner (col. 1 lines 62-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tensioner of Craddock et al to include a friction surface as taught by Rowland et al in order to reduce wear between the blade springs (col. 1 lines 62-67).

Re claim 2, Rowland et al show the use of blade springs (14, 18) having a friction surface being a plate-like member (28) extending in the length direction of the blade springs (see Fig 3) and is provided independently from the blade springs (col. 2 lines 63-73).

Re claim 3, Rowland et al show the friction surface comprises a plate-like member extending in the length direction of the blade springs (see Fig 3) and attached to at least one blade spring through bonding or welding.

Re claims 7, 8 and 9, Rowland et al show the friction parts are configured using rubber (col. 2 lines 63-66), plastic, or friction paper.

Re claim 12, Rowland et al disclose set of spring blades comprising: a first blade spring (14) having an upper and a lower planar surface (see Fig 3); a second blade (18) spring having an upper and a lower planar surface disposed below the first blade spring (see Fig 3), the lower planar surface of the first blade spring and the upper planar surface of the second blade spring in sliding engagement (col. 1 lines 57-68); and a friction surface (28) provided between the lower planar surface of the first blade spring and the upper planar surface of the second blade spring (see Fig 3) having a

coefficient of friction selected to provide sliding resistance there between effective to damp vibrations of the tensioner (col. 1 lines 57-68).

Re claims 13 and 22, Rowland et al show the friction surface is formed on at least one of the blade springs (col. 2 lines 63-73).

Re claims 14 and 23, Rowland et al show the friction surface comprises a friction plate (10) disposed between the blade springs (see Fig 3).

Re claims 15 and 24, Rowland et al show the friction plate is attached to at least one of the blade springs (col. 2 lines 63-73).

Re claim 18, Craddock et al show the blade shoe having a chain sliding face (30) against which the chain is slidable (see Fig 1), wherein the blade springs are disposed between slots (see Fig 5) formed on a face of the blade shoe opposite the chain sliding face (see Fig 1).

Re claim 19, Craddock et al shows a base provided for pivotably mounting a first end of the blade shoe (see Fig 1).

Re claim 20, Craddock et al shows a second end of the blade shoe is freely slidable upon the base (see Fig 1).

5. Claims 4-6, 10, 11, 16, 17-20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craddock et al (US 5,055,088) in view of Rowland et al (US 2,920,884) as applied to claims 1-3, 7-9, 12-15, 23 and 24 above and further in view of McCutcheon et al (US 5,691,037).

Craddock et al disclose a blade tensioner as described above, but do not disclose the friction surface comprises a plurality of members extending in the length direction of the blade springs and attached to at least one blade spring through bonding or welding.

McCutcheon et al teaches the use of two surfaces (56,60) having a friction surface comprises a plurality of members (58) extending in the length direction of the surfaces (see Fig 3D) and attached to at least one surface through bonding (col. 16 lines 1-5) or welding.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a plurality of transverse members between the spring blades of Craddock et al as taught by McCutcheon et al in order to improve vibrational damping (col. 10 lines 31-32).

Re claims 5 and 6, Craddock et al show the blade spring and McCutcheon et al show and render obvious the bumpy surfaces (58) created on contact faces between the friction surface and at least one surface (see Fig 3D).

Re claims 10 and 11, McCutcheon et al show the friction parts are configured using rubber (col.11 lines 9-16), plastic, or friction paper.

Re claims 16 and 25, Craddock et al show the blade springs and McCutcheon et al show and render obvious the friction surface comprises a plurality of transverse members (58) disposed between the surfaces (see Fig 3D).

Re claims 17 and 26, Craddock et al show the blade springs and McCutcheon et al show and render obvious at least one of the plurality of transverse members (58) is attached to at least one of the blade springs (see Fig 3D).

Response to Arguments

Some further comments regarding the Applicant's remarks are deemed appropriate.

Bonding and welding are methods of forming the device. The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

The Applicant argues that the Craddock et al reference does not disclose a friction surface between the surfaces of adjacent blade springs. It is agreed that Craddock et al does not disclose a friction surface between the surfaces of adjacent blade springs. The Rowland et al reference is used to show the teaching that a friction surface/insert can be used between two blades springs to provide sliding resistance.

Applicant's arguments with respect to the Lord reference have been considered, but are moot in view of the new ground(s) of rejection.

The Applicant's remarks have been accorded due consideration, however they are not deemed fully persuasive.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3682

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vicky A. Johnson whose telephone number is (703) 305-3013. The examiner can normally be reached on Monday-Thursday (7:00a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Bucci can be reached on (703) 308-3668. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

vaj *VAJ 5/19/03*
May 19, 2003


Thomas R. Hannon
Primary Examiner